

GEG 357: Economics of Sustainable Development

Syllabus (Fall 2026)

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1. Course Description

Economics of sustainable development studies the economic aspects of how society sustainably manages natural resources and the environment while improving human well-being. The first half of the class introduces sustainable development principles and practices in various settings, focusing on institutions, governance, and economic policies. Critical issues cover the sustainable development of land and water, risk and economic security, and disaster management. The second half of the class discusses the evolution of smart growth in urban planning globally, mapping the trajectory from its original principles to its position as an important paradigm in sustainable planning today. Specifically, we will learn about the economic aspects of smart growth, how these aspects have been embedded in government policies for sustainable development, and to what extent these policies have achieved their goals. Throughout the course, we will work on various case studies focusing on recent topics worldwide.

2. Learning Objectives

Upon completion of the course, students will be able to:

- Understand fundamental principles of economics
- Apply principles of economics to real-world situations and explain them in their own words
- Comprehend different tables and figures to deliver take-home messages
- Participate in discussions about sustainable development from an economic perspective
- Analyze case studies using fundamental theories, empirical evidence, existing literature, and recent events about sustainable development
- Develop writing and presentation skills through course assignments

3. Course Logistics

3.1 Class meetings: We will meet in person on Tuesdays and Thursdays at 9:30–10:45 am Eastern Time in 1300 Campo Sano Ave, Room 201 (GIS Lab).

3.2 Attendance and participation: Attendance is essential for you to perform well in class. Laptops are permitted for notetaking and classwork only. Cell phones are to be disabled in class.

3.3 Office hours: I will hold in-person office hours on Tuesdays and Thursdays at 4:00–5:00 pm in Suite 115J, 1300 Campo Sano Ave. Appointments through email are required. If sickness or any other reason renders in-person meetings difficult or unwise, I am happy to switch to Zoom office hours (on a case-by-case basis, and please email me for the Zoom link).

3.4 Email and communication: Please email me at haoluan.wang@miami.edu with any questions, concerns, or ideas you may have in this class. Emailing me directly is preferred to messaging me through Canvas. Please put “GEG 357” in the subject line. Do not be shy about sending follow-up emails if I forget to reply. Any course-related notifications will be announced on Canvas, and you will also be notified through your UM email.

4. Course Materials

Lecture slides and course materials are available through Canvas or the library. Recommended textbooks include:

- Balisacan, A., Chakravorty, U., Ravago, M. (2014). *Sustainable Economic Development: Resources, Environment, and Institutions*. Elsevier: 1st Edition.
- Knaap, G., Lewis, R., Chakravorty, A., June-Friesen, K. (2022). *Handbook on Smart Growth: Promise, Principles, and Prospects for Planning*. Edward Elgar Publishing.
- Betley, E. C. (2015). How the West was watered: A case study of the Colorado River. *Lessons in Conservation*, 5, 62–84.
- Finley, T., Franck, R., & Johnson, N. D. (2021). The effects of land redistribution: Evidence from the French Revolution. *The Journal of Law and Economics*, 64(2), 233–267.
- Robinson, L., Newell, J. P., & Marzluff, J. M. (2005). Twenty-five years of sprawl in the Seattle region: Growth management responses and implications for conservation. *Landscape and Urban Planning*, 71(1), 51–72.
- Joerin, J., Shaw, R., Takeuchi, Y., & Krishnamurthy, R. (2012). Assessing community resilience to climate-related disasters in Chennai, India. *International Journal of Disaster Risk Reduction*, 1, 44–54.
- Ameli, N., & Brandt, N. (2015). Determinants of households’ investment in energy efficiency and renewables: Evidence from the OECD survey on household environmental behaviour and attitudes. *Environmental Research Letters*, 10(4), 044015.

5. Grading Breakdown

Class participation	10 points
News article presentation	10 points
In-class quizzes	15 points
Case study briefs	15 points
Short essay	20 points
Group project and presentation	30 points
Total	100 points

Point	Grade	Point	Grade	Point	Grade	Point	Grade
96–100	A+	84–88	B+	72–76	C+	60–64	D+
92–96	A	80–84	B	68–72	C	56–60	D
88–92	A-	76–80	B-	64–68	C-	0–56	F

5.1 Class participation (10 points): Attending classes in person is expected. Attendance will be taken when the class attendance rate falls below 75%. If an absence is unavoidable, you should contact the professor in advance for an excuse. Actively engaging during lectures will help you keep up with course materials, ask questions, and interact with your classmates.

5.2 News article presentation (10 points): Each student is expected to give an in-class short presentation based on news articles regarding sustainable development. The student can choose the topic and news articles of his/her interest. The presentation is expected to be about 5 minutes. Students are expected to make PowerPoint slides for the presentation. The date for each presentation will be determined at the beginning of the semester after the class roster is finalized. All news article presentations will be given at the beginning of the class.

5.3 In-class quizzes (15 points): Three short quizzes are to be administered to test students' understanding of lecture materials. The date for each quiz is given in the course schedule below. All the quizzes will be given at the beginning of the class and are NOT cumulative.

5.4 Case study briefs (15 points): Six case study briefs (each worth 2.5 points) are to be written based on case study sessions. Students are expected to read the assigned reading materials before the class. Instructions for each case study brief will be given during the case study sessions. Each case study brief is due a week after the case study session.

5.5 Short essay (20 points): Students are expected to write a short essay on the economics of sustainable development. Data collection and quantitative analyses are required. The instructions for the short essay will be given during the short essay writing session. The short essay should be a *minimum* of five pages, single-spaced, *not* including figures, tables, and references. The short essay is due Tuesday, December 1, 2026, at 11:59 PM.

5.6 Group project and presentation (30 points): Each student will be assigned to one group project (~7 students per group, depending on the class size) on a topic announced in class. Students will be given time in class (i.e., three group project sessions) to work on the project together. Students are expected to spend additional time on the project outside of class. The group will present the project at the end of the semester and submit a project report with a *minimum* of five pages, single-spaced, *not* including figures, tables, and references. The report for the group project is due Wednesday, December 9, 2026, at 11:59 PM.

Late work without documentation of illness or other emergencies will be accepted with a 20% drop for every day of lateness up to 5 days late, deducted after the assignment is evaluated for content. *No late submissions are permitted for the group project and presentation.* Make-ups for in-class quizzes are only permitted for students with a university-approved excused absence.

Opportunities for extra credit may be provided for the whole class. However, no extra credit will be granted on an individual basis.

6. Campus Policies

6.1 Academic Integrity: Students should familiarize themselves with the University of Miami Honor Code. To learn about the Honor Code, visit <https://doso.studentaffairs.miami.edu/honor-council/honor-code/index.html>. Cheating or plagiarism will not be tolerated and will be handled accordingly.

6.2 Academic Resources: The library provides several academic services to students through the Learning Commons at <https://www.library.miami.edu/learningcommons/>. For students seeking assistance with assignments, I recommend making an appointment with the Writing Center at <https://english.as.miami.edu/writing-center/index.html>.

6.3 Disability Services: As stated by the Camner Center for Academic Resources: “Students have the responsibility to self-disclose and request accommodations through the Office of Disability Services. Students with approved accommodations must present the Professor Memo to faculty with fair notice before needing or using the accommodation.” For more information, visit <https://camnercenter.miami.edu/disability-services/index.html>.

6.4 COVID-19: Students who test positive for COVID-19 may be required to quarantine/isolate off campus, subject to changes in university policies.

6.5 Religious Holiday Policy: Students must inform the lecturer within the first three class days of any anticipated absences due to the observance of religious holidays.

7. Course Schedule

#	Date	Topic	Readings*	Note
	Aug 18	Course introduction and expectations	-	
Part I: Overview of Sustainable Economic Development				
1	Aug 20	Principles and practices of sustainable economic development	BCR Ch. 1	
2	Aug 25	Scarcity, security, and sustainable development	BCR Ch. 3	
	Aug 27	<i>Short essay writing session</i>	-	
Part II: Management of Renewable and Non-renewable Resources				
3	Sept 1	Economics of fossil fuels and pollution	BCR Ch. 4	
4	Sept 3	Integrated groundwater resource management	BCR Ch. 5	
	Sept 8	<i>Guest speakers from GreenU</i>	-	
5	Sept 10	Case study #1	Betley	
	Sept 15	<i>Group project session #1</i>	-	Quiz #1
6	Sept 17	Land confiscations and land reform in natural-order states	BCR Ch. 11	
7	Sept 22	Case study #2	Finley	
8	Sept 24	Agricultural R&D policy and long-run food security	BCR Ch. 15	
9	Sept 29	Case study #3	BCR Ch. 7	
Part III: Smart Growth Principles: The Location of Urban Development				
10	Oct 1	Urban containment as smart growth	KL Ch. 3	
11	Oct 6	Farmland and forest conservation	KL Ch. 4	
12	Oct 8	Case study #4	Robinson	
	Oct 13	NO CLASS – FALL RECESS		
	Oct 15	<i>Group project session #2</i>	-	Quiz #2
13	Oct 20	Redevelopment and the smart growth movement	KL Ch. 5	
Part IV: Smart Growth Principles: Transportation, Energy, and Climate				
14	Oct 22	Transportation: A facilitator of and barrier to smart growth	KL Ch. 10	
15	Oct 27	Community resilience to environmental hazards and climate	KL Ch. 15	
16	Oct 29	Case study #5	Joerin	
17	Nov 3	Energy planning and challenges for smart growth	KL Ch. 16	
18	Nov 5	Case study #6	Ameli	
	Nov 10	<i>Group project session #3</i>	-	Quiz #3
	Nov 12	<i>Group project presentation</i>	-	
	Nov 17	<i>Group project presentation</i>	-	
	Nov 19	<i>Group project presentation</i>	-	
	Nov 24	NO CLASS – THANKSGIVING RECESS		
	Nov 26	NO CLASS – THANKSGIVING RECESS		
	Dec 1	<i>Group project presentation</i>	-	Short essay
	Dec 9	Group Project Submission		

*: BCR = Balisacan, A., Chakravorty, U., Ravago, M. (2014)

KL = Knaap, G., Lewis, R., Chakravorty, A., June-Friesen, K. (2022)

Betley = Betley (2014); Finley = Finley, T., Franck, R., & Johnson, N. D. (2021); Robinson = Robinson, L., Newell, J. P., & Marzluff, J. M. (2005); Joerin = Joerin, J., Shaw, R., Takeuchi, Y., & Krishnamurthy, R. (2012); Ameli = Ameli, N., & Brandt, N. (2015)